

DERWENT-ACC-NO: 2003-088075

DERWENT-WEEK: 200308

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TITLE: Vertical nano-size mram using carbon
nanotubes and
manufacturing method thereof

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PRIORITY-DATA: 2001KR-0001351 (January 10, 2001)

PATENT-FAMILY:

PUB-NO	PAGES	MAIN-IPC	PUB-DATE	LANGUAGE
KR 2002060331 A	001	H01L 027/10	July 18, 2002	N/A

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-DESCRIPTOR	APPL-NO
KR2002060331A	January 10, 2001	N/A	2001KR-0001351

INT-CL (IPC): H01L027/10

ABSTRACTED-PUB-NO: KR2002060331A

BASIC-ABSTRACT:

NOVELTY - A vertical nano-size MRAM(Magnetic RAM) using the carbon nanotubes and a manufacturing method thereof are provided to limit the electron by using the carbon nanotube as a quantum dot and to realize the low electricity driving and the super slim and capacity of a terra bit class.

DETAILED DESCRIPTION - The source electrodes(40) are formed on a semiconductor substrate(200) by a magnetic material. An insulation

layer(10) is formed by
the non-conductive materials such as Al₂O₃ and SiO₂ and the
holes(10') is
formed on the position matching to the source electrode. The
carbon
nanotubes(100) is vertically grown on the source in the hole
by a CVD method,
an electrophoresis method or a mechanical pressing method. A
non-conductive
thin film(30) is deposited on the insulation layer to bury
the holes. A drain
electrode(50) is formed on the non-conductive thin film and
the carbon
nanotubes by the magnetic material.

CHOSEN-DRAWING: Dwg.1/10

TITLE-TERMS: VERTICAL NANO SIZE CARBON MANUFACTURE METHOD

DERWENT-CLASS: L02 L03 U11 U13

CPI-CODES: L02-H04B; L03-D01;

EPI-CODES: U11-A09; U13-E03;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2003-022282

